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June, 1950

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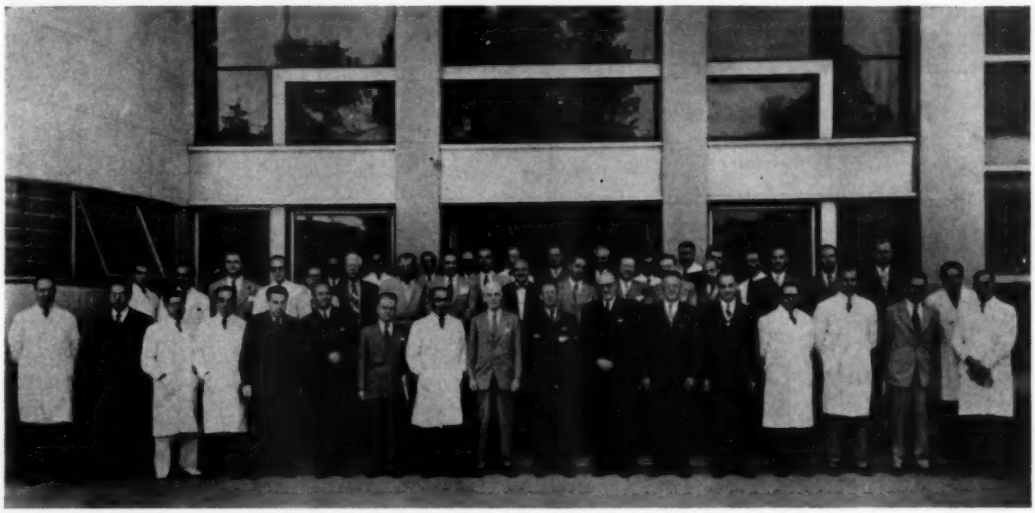
THE MEDICAL PRACTICE IN MEXICO



Post-Graduate Assembly, Mexico City, August 1949, sponsored by the American College of Physicians.

SOUTHWESTERN MEDICINE values its Latin-American readers highly, and is making a concentrated effort to bring the medical thought of both Mexico and the United States more closely together. There is no essential difference between the practice of medicine in Mexico and the practice of medicine in the United States. In recent years all of us who live in the vicinity of the border have come to realize this much more distinctly; and very definite efforts are being made to knit the medical profession of these two great countries into a working unit which will maintain the great tradition of American medicine on the North American continent.

Canada has contributed much to continental medicine, and Mexico is assuming its rightful place. Those of us who have had the opportunity of collaborating with the physicians in Mexico realize more and more that their problems are our problems, and that there can be no real division.

DIFFICULTIES OVERCOME

Language difficulties have hindered the co-operation between the physicians of the two countries, but these are beginning to be overcome. Many of the practicing physicians in both countries are bilinguists; and, because of this, we are now able to present medical thought so that it can be adequately understood by all parties concerned. In this connection it is interesting to note that in all probability the most popular post-graduate course offered by the American College of Physicians is that given by the National Institute of Cardiology in Mexico City, under the direction of Dr. Chavez.

One cannot visit the Institute of Cardiology in Mexico without coming away with the feeling that physicians interested in the study of the heart, who have not visited this institution, are missing an extremely profitable opportunity to further their knowledge.

The American College of Physicians requested each member of the College participating in this post-graduate course to write his comments. It is interesting to note these comments in some detail:

COMMENTS QUOTED

Quoting from some of the reports received from those in attendance: "I spent a very profitable two weeks. The course was well-organized and well-conducted. I was very favorably impressed with the well-trained group of men there. The course gave me just what I wanted."—M.D., Tennessee. "In my opinion, it was the best course in Cardiology which it has been my privilege to attend. Its strong points were (1) the care with which the program was arranged; (2) the co-ordination between the Director and the heads of each department; and (3) the high level of instruction which each speaker maintained." —M.D., California. "A most profitable course and enjoyable vacation. The course is highly recommended, especially for catheterization technics and angiocardiography." —M.D., Texas. "The course was excellent beyond description. The courtesy of the staff and the zeal and interest of each participant has set a goal difficult to equal." M.D., New York. "The program arranged by Dr. Chavez was informative and illuminating. Not only will the scientific program be forever remembered but likewise the hospitality of the Director. May I add that the enthusiasm and good fellowship displayed by Dr. George Morris Piersol, Dr. William Dock and Dr. George C. Griffith, American College of Physicians' guests, were deeply appreciated. I wish to express due thanks to The American College of Physicians for granting such opportunities to its members."—M.D.,Pennsylvania.

ANOTHER COURSE

During the Summer in 1950 the American College of Physicians are offering another course in Mexico City. This course has to do with nutritional disease; and it is anticipated that this course will rival the scientific interest which has been aroused by the

previous courses in diseases of the cardiovascular system.

As further evidence of the closer co-operation between the Latin-American countries, and the United States, it is interesting to observe that the American College of Physicians is offering fellowships to the recent graduates of the schools in Latin-America for the purpose of acquainting these young men with research medicine as it is conducted in our country. These young men, it is hoped, will return to their respective countries and serve as teachers; thus, of course, tightly cementing the medical thought of the Americas.

With the speed of modern transportation, we are no longer a unit unto ourselves. The horse and buggy days are a relic of the dim past. We must go forward and in our progress we must share its achievements with all of our brother practitioners south of the Border.

A Clinical Study of a New Sulfonamide (NU-445) in the Treatment of Urinary Tract Infections

The effectiveness of a new sulfonamide, 3, 4-dimethyl-5-sulfanilamide-isoxazole (NU-445) was studied in 25 cases of urinary tract infections involving seven groups of pathogenic organisms. There were 18 cases with unmixed and 7 cases with mixed infections. Counting each of the offenders separately, there was a total of 33 infections, the majority of which were due to B. pyocyaneus or E. coli.

NU-445 was administered orally to all 25 patients and, in addition, eight of these subjects were treated with bladder instillations. The daily oral dose varied from 4 to 16 gm. and the average duration of treatment was 25 days. One patient received as much as 1680 gm. over a period of 140 days and the average total intake per patient was 259 gm.

Results were as follows: The infecting organisms were eradicated in 20 instances, or 60.6 per cent; NU-445 was ineffective in 10 instances, or 30.3 per cent; and results in the remaining three infections were equivocal.

The high incidence of positive responses to treatment with NU-445 in Pyocyaneus and coli infections is remarkable. The drug proved effective in cases in which sulfadiazine and/or streptomycin had failed to eradicate these pathogens.

The good solubility of NU-445 obviates the need for concomitant alkali medication even if very large doses are administered. In none of the cases studied was crystalluria or hematuria observed. Similarly, there was no evidence of deposition of crystals in the urinary tract. In general, NU-445 was tolerated without serious complications. Discontinuation of treatment became necessary, however, on account of untoward effects in two instances.

The Erythrocyte Sedimentation Rate in Human Subjects Receiving Dicumarol

"Therapeutic doses of Dicumarol do not significantly influence the erythrocyte sedimentation rate in normal, ambulatory subjects.

"Therefore, the clinical value of the sedimentation rate in patients receiving Dicumarol therapeutically remains unaltered."—Hyman, J. and Harris, R., *Am. Ht.J.* 39:321, 1950.

De Rebus Medicis Et Politicis

By ROBERT B. HOMAN, JR., M. D., EL PASO, TEXAS
Member of the House of Delegates of the American Medical Association.

MEDICAL IDEOLOGY

Perhaps the greatest inheritance of the medical profession is that philosophy which provides for the free interchange of knowledge, of research, of experience, and of methods of treatment, medical, surgical, or otherwise. Among ethical physicians there are no "secret cures", patented medicines, patented appliances, in fact, **no secrets,** except the confidences of the patient, which are held inviolate. This ideology is founded on the Hippocratic Oath, and further strengthened by the Code of Ethics of the American Medical Association and by similar codes of all free medical societies.

The basic concept of medical ideology is that mankind—every living person—must have the benefit of the combined knowledge and experience of every physician. A second concept of this sacred philosophy is that each physician must be his brother's teacher. A third concept is that the financial welfare of the physician is entirely secondary to the medical welfare of his patients.

JAUNDICED EYE

It is sometimes difficult for the laymen, in this highly industrialized and competitive world, to grasp the significance of our medical ideology. The jaundiced eye of competition blinds him to the fact that this ethical behavior of a profession can, and does exist.

The internationl aspect of this ideology is exemplified in this issue of SOUTHWESTERN MEDICINE. The scientific articles from our sister Republic of Mexico, printed herein, are but a small example of the excellent and authoritative contributions which the profession in Mexico is making to world-wide medical knowledge. Physicians from the United States who have attended Clinical Sessions in Mexico are high in their praise of Mexican medicine.

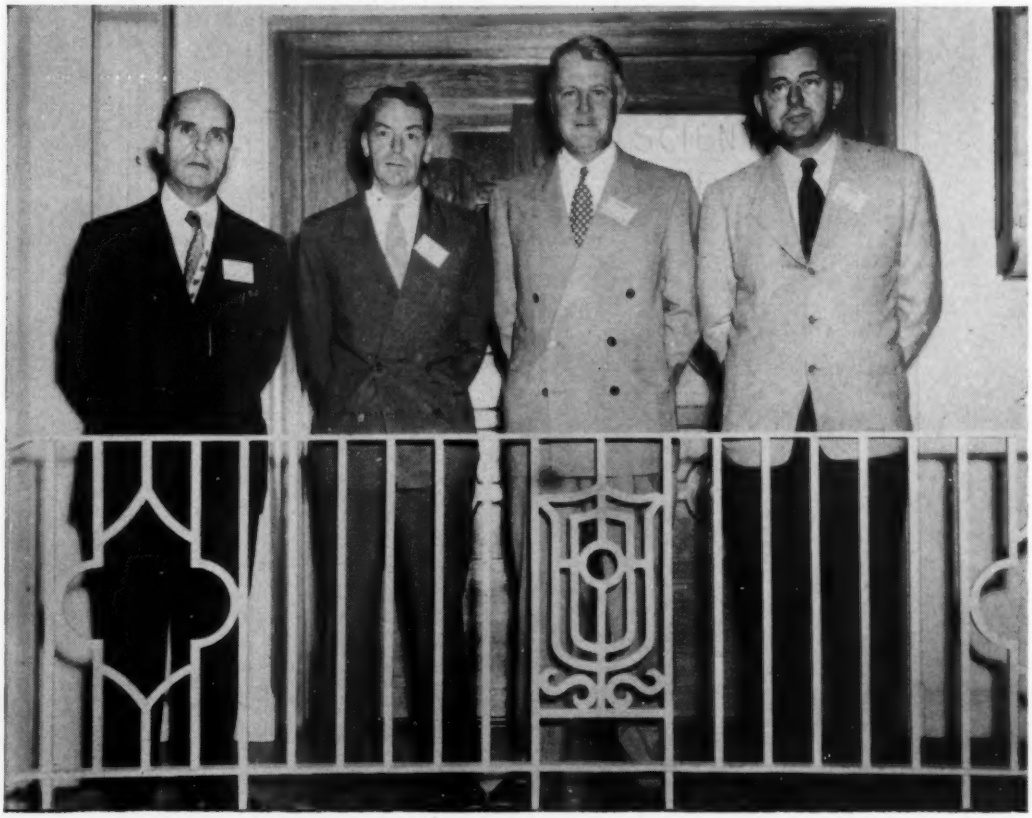
Unfortunately, this spirit of medical co-operation does not exist in every country today. The profession behind the Iron Curtain is no longer free to disseminate its knowledge throughout the world. The all-powerful polit-buro dictates the policies; and the ideology of Communism overcomes medical ideology.

WORST EXAMPLE

By far the worst example of degradation of the medical profession is exemplified by the Germans under Hitler. The ideology of Nazism and Aryan supremacy so engulfed the German people and the German doctors and scientists that medical ideology went out the window. As a result, important German discoveries are just now reaching the world. The supreme result of this incident was that the formerly great medical profession of Germany lowered itself to the medical atrocities of Dachau and Buchenwald.

The profession is made up of human beings who, as individuals, are subject to the usual human frailties of conduct. Some of these frailties, such as the love of money, are detrimental to all, and will inevitably lead to a much-needed house cleaning. As long as the vast majority is free to revere a sacred medical ideology and not false idols, medical progress shall continue unabated and mankind shall profit thereby.

NEW MEXICO SOCIETY MEETING



New officers of the New Mexico Medical Society recently elected at the annual convention in Las Cruces are, from left, Coy Stone, M. D., Hobbs, vice-president; L. G. Rice Jr., M. D., Albuquerque, secretary- treasurer; I. J. Marshall, M. D., Roswell, president; and L. S. Evans, M. D., Las Cruces, president-elect.

More than 100 members of the New Mexico Medical Society attended the group's annual meeting in Las Cruces, May 4-6, to hear outstanding speakers in the field of medicine present papers on a variety of pertinent subjects. Many physicians from El Paso also attended the meeting as visitors.

Officers elected for the 1950-51 year include Dr. I. J. Marshall of Roswell, president; Dr. L. S. Evans, Las Cruces, president-elect; Dr. Coy S. Stone, Hobbs, vice-president; and Dr. L. G. Rice, Albuquerque, secretary-treasurer.

Dr. A. S. Lathrop of Santa Fe and Dr. C. H. Gellenthien of Valmora were re-elected as Councilors to serve for three years. Dr. John F. Conway of Clovis was named delegate to the American Medical Association for 1950-51, with Dr. Gellenthien as alternate.

Drs. W. A. Stark of Las Vegas, A. C. Shuler of Carlsbad, and Dr. Lathrop were re-elected to the Board of Trustees for the New Mexico Physicians Service.

Elected to the Board of Supervisors for two years were Dr. C. Pardue Bunch of Artesia; Dr. H. L. January, Albuquerque; Dr. V. E. Berchtold, Santa Fe; and Dr. Conway. Selected to serve on the board for one year were Dr. H. L. Mortimer, Las Vegas; Dr. W. E. Badger, Hobbs; Dr. L. J. Whitaker, Deming; and Dr. Frank Parker, Gallup.

Dr. Marshall welcomed members to the meeting and in his opening address warned physicians about the need for taking an active part as individuals in politics. He emphasized the dangers that can develop from the charging of excessive fees and advised physicians to set up a procedure by which the public can obtain a doctor at all times.

Guest speakers at the meeting were Dr. James Spencer Speed, Dr. Willard R. Cooke, Dr. Russell J. Blattner, Dr. Henry M. Winans, Dr. Allen J. Enelow, Dr. Nathan A. Womack and Dr. Ralph J. Gampell.

Dr. Gampell, who voluntarily exiled himself from British socialized medicine, told in striking fashion the developments in England under socialized medicine.

Members of the Dona Ana County Medical Society under the leadership of Dr. James C. Sedgwick, president, assisted in plans for the meeting.

Retiring president of the New Mexico Medical Society was Dr. J. W. Hannett of Albuquerque.

PRE- AND POST-OPERATIVE CARE IN CHILDREN*

By J. Lozoya S., M. D.
Chief Surgeon, Hospital Infantil, Mexico City

To date there are few hospitals in the world with well established surgical pediatric services. In the majority of hospitals, and more often in private practice, the general surgeon takes care of both adults and children. In this field we are in the same state that medical pediatrics was twenty-five or thirty years ago, when the family doctor took care of both parents and children. Things have started to change, and today, in big cities, not only the family phyisican but the public itself demands pediatricians to take care of children.

There is now a great movement in pediatric centers to care for surgical problems of infancy and childhood on a strictly pediatric basis. Dr. Sidney Farber and Robert Gross are working hard in the project of the Children's Medical Center of Boston where great departments of Surgery and Pathology are predominant. Dr. Herbert E. Coe and the speaker have finally succeeded in organizing the Surgical Section of the American Academy of Pediatrics last November in Atlantic City. The Hospital Infantil of Mexico City has around 250 beds (out of 600 total) dedicated to surgical problems of children (general, bone, E.N.T., etc.) Because of the limited number of pediatric surgeons, it is still impossible to have one on every pediatric service; so it is very important that all pediatricians, general practitioners, and general surgeons be familiar with the fundamental precepts of pediatric surgery in the interest of their small patients.

CARE IN OPERATION

The pre- and post-operative care, as well as the care during the operation, is determined by the characteristic responses of the organism at this age, and this may be summarized as depending on the hyper-reactivity of the child. This seems to make surgical problems in infancy more difficult from the point of view of the public and even of the general physician, but it is really the best guaranty the pediatric surgeon has, if well understood and utilized. The response of the baby to therapeutic measures is prompt and precise, either favorable or unfavorable. The margin of safety in pediatric surgery is not very wide, but knowing it well, one can perform all sorts of operations on the smallest baby, even in prematures weighing less than 1500 grams. There is no prohibitive age for surgery today.

EXAGGERATED RESPONSES

The younger the child, the more exaggerated are the responses. Realizing this fact, the pre-, post-operative and operative care is determined on the basis of:

Thermolability.
Hydrolability.
Hypersensitivity to hemorrhage.
Hypersensitivity to hypoproteinemia.
Hypersensitivity to anoxemia.
Hypersensitivity to trauma.
Hypersensitivity to nervous stimuli.
Organism in a period of rapid growth.

General reactions marked, either favorable or unfavorable.

Thermoregulation is difficult. The infant may quickly develop hyperthermia or hypothermia; and the surgeon has to be very careful regarding temperature control. Hyperthermia can be combatted with (1) small ice cold enemas of 20 to 50 c.c. given every five minutes until the temperature approaches normal; (2) ice caps applied to the head or those zones where the great vessels are close to the skin; (3) intravenous isotonic solutions at a degree lower than body temperature; (4) aspirin in any way we can administer it. Aspirin can be given in the following dosages, every four to six hours if necessary.

0 to 2/12	0.01 grams
3/12 to 6/12	0.02 to 0.05 grams
7/12 to 1 yr.	0.05 to 0.10 "
1 to 3 yrs.	0.10 to 0.15 "
4 to 8 yrs.	0.15 to 0.25 "
9 to 12 yrs.	0.25 to 0.35 "
12 years on	0.50 grams

ROOM TEMPERATURE

Room temperature must be adequate. Do not cover the patient too much. We never use cold baths because they require special equipment and are very often followed by upper respiratory infections. Ether sprays are also useful. Low temperatures can be controlled by heating the environment, by warm wrappings, hot water bottles, blankets, alcohol rubs and hot tea with brandy. It is well to note here that in children, traumatic or surgical shock is almost always accompanied by hyperthermia and very seldom by hypothermia, contrary to the response of the adult patient.

It is known that a great part of the body weight of the adult is composed of water. In the child, especially in the infant, it makes up an even greater part, corresponding to 75 per cent more or less, as shown by Gamble. Because of this, the infant becomes readily dehydrated and his resistance is thus quickly lowered.

ACIDOSIS AND ALKALOSIS

Acidosis and alkalosis should be carefully controlled. The easiest and cheapest way for determining that status is by means of urine tests, but sometimes blood chemistry is necessary. Nevertheless, the careful clinical study of the patient is the best guide, and careful observations should be made as to dryness of skin and mucous membranes, lack of normal turgor of subcutaneous tissues, scanty and concentrated urine, type of respiration, hyperthermia and odor of the breath. Acidosis or alkalosis and dehydration can be combatted with saline, 5 per cent glucose or sixth molar lactate Hartmann solution, given intravenously, 15 to 20 drops a minute, alternatively and in proportion of 30 to 50 c.c. per kilo of weight for the first intravenous treatment, or 150 to 200 c.c. per kilo per day.

It is not wise to mix the solutions. It is better, as said above, to alternate them. In hypoproteinemia, low hemoglobin, anemia and intoxication, blood and plasma transfusions should be given. Give blood at the rate of 10 to 20 c.c. per kilo for the initial dose, or 30 to 50 c.c. per kilo a day, and plasma at half the rate of blood. The improvement of the patient, however, is a better guide to the amount which should be given, than arbitrary figures. Blood can be mixed with

*This paper delivered at Post-Gradute Medical Assembly, San Antonio, Texas, January 1949.

physiological saline but not with glucose solution, because it makes small clots that produce severe shock.

ADVANTAGES NEEDED

These surgical patients need every possible physiological advantage; and any adverse reaction, which under other circumstances would be of minor importance, can at such a time be fatal. Internes working with children should be familiar with the technique of giving intravenous solutions, so that venoclysis may be maintained throughout the operation and afterwards. Needles Nos. 20 or 22 are used for the veins of the hand, wrist, forearm, foot, head or neck. Any available or visible vein may be used, except the longitudinal sinus and the internal jugular. We never cut for a vein, never use the peritoneal or rectal clysis, and very seldom use the subcutaneous route. We often use a nasal catheter to give fluids, by drop, into the stomach. We believe the best route for administering fluids to a child is by mouth, and next best is by vein.

CONSTANT CHECK

During the operation the circulating nurse must watch carefully the venoclysis and control the temperature. At the same time she must check the amount of blood lost by means of the sponges and the blood in the aspirator container. The surgeon must watch hemostasis. In children 100 or 200 c.c. of blood lost may be fatal. If severe shock occurs, it is best to use washed red cells, especially in children who have received many transfusions. The viscera should be handled gently and kept moist with warm saline. Adequate incisions should be made no bigger than necessary and no smaller than sufficient. Dissection should be made by layers, avoiding large unnecessary incisions, or brutal bites with forceps.

The problem should be considered as a whole, with the least possible destruction and laceration of tissues. Use conservative surgery, strictly anatomo-physiological, and consider that when operating on a child we are intervening in an organism in its stage of rapid growth. Use fine adequate instruments, and avoid deep bites. Use fine suturing material between 0 and 6-0 Suture by layers, making an anatomical, physiological and aesthetic reconstruction. All through the operation, maintain strict regulation of temperature, hydration and blood volume. These three items are decisive in serious operations. Safety must never be sacrificed to time. Prudence comes before haste.

MAJOR SURGERY

In major surgery, especially in prematures and small infants, the surgeon has to have keen control of all his team in such a way that when the crucial moment arrives, he can obtain the integral assistance of his team with a slight movement, look or word. He is the pilot responsible for the life of the patient.

It is of fundamental importance to relieve pain. Generally aspirin and barbiturates will accomplish this. Barbiturates are seldom used in the first two weeks of life. A few drops of whiskey are used instead. After two weeks of age one miligram of barbiturate per kilo, can be given up to two years, then one centigram per kilo. This dose is sufficient not only to relieve pain but to act as pre-anesthetic medication. We never have to go beyond 15 centigrams, even if the weight should be above the stated ratio. This medication can be given orally, rectally or intramuscularly. We seldom have to use morphine, but it can safely be used after two years of age. Morphine hydrochloride is better than sulfate or sedol. Ampules of 0.01 grams are used in the following dosages.

2 to 4 years	1/4	of an ampule
5 to 7 "	1/3	"
8 to 10 "	1/2	"
11 to 13 "	3/4	"
After 14 "	1	ampule

It is necessary to check the history to determine sensitivity to this drug.

PSYCHIATRY ESSENTIAL

Rudimentary knowledge of child psychology and psychiatry are essential. Emotional fever and even shock are not infrequent in pediatric surgery, when the surgeon does not consider this factor. It is entirely wrong to believe that pain is less marked in children than in adults.

Drainage of the gastrointestinal tract is indispensable. Wangensteen's syphon either with Levin's or Muller-Abbott's tubes, works marvelously in older children, but is not easy to control in very small infants, where suction with a syringe and a Nelaton's catheter is more useful.

Anoxemia is always dangerous in children. Postural drainage of the respiratory tract during the operation and immediately after is essential. The electrical suction apparatus must be used frequently. The position of the patient must be comfortable and should permit easy respiration and a free working field for the anaesthetist. The surgical fields, as well as the instruments and the surgeons' hands must not weigh heavily on the chest and abdomen of the patient.

RESPIRATORY CAPACITY

The child's respiratory capacity is always proportionately small and under anaesthesia is decreased. Before, during, and after operation the child must have plenty of oxygen. Avoidance of hemoconcentration is imperative. There should be an adequate amount of red cells and oxygen in the pulmonary alvoelae during each respiratory phase. This optimum condition can be obtained by means of supplying plenty of oxygen and an adequate proportion and circulation of erythrocytes.

As for anaestheisa, no matter what kind of anaesthetic is used, oxygen must be given in large quantities and anoxemia carefully avoided. Ether is is preferred, though cyclopropane is also very good. Chloroform or mixture containing it must not be used in children. In very small infants it is better to use ether by open mask method, if the operation permits; in any way oxygen may be given by nasal catheter. Ethyl chloride is very good for induction in older children.

PREMEDICATION

Premedication is based on the use of homatropine compounds orally and (zetalcaloid) intramuscularly, with barbiturates by oral, rectal, intramuscular or intravenous routes. Intravenous picrotoxin is the antidote for barbiturate poisoning. In special cases and in older children, sodium pentothal and curare, intravenously, are very good. Prostigmine is the antidote for curare. The abrupt passing from one plane of anaesthesia to another should be avoided.

Local or regional anaesthesia is not very much used, because the child becomes upset by all the work and movement of the operating room and restless with prolonged immobilization.

After the operation:

Drainage is used only when it cannot be avoided. We do not use dressings in our patients unless the wound is draining or when compression is necessary. Dressings cost money for the hospital, extra work

for the staff and are of no real advantage to the patient. In this manner the wounds can often be cleaned very easily by the nurse or the mother. Sulfas, penicillin and streptomycin are used freely, but with sound clinical judgment. Frequent checks should be made on the patient to be sure that respiratory, urinary and gastro-intestinal tracts are functioning normally. Temperature control, hydration and transfusions should be used as needed.

EARLY AMBULATION

Allow the patient to move spontaneously, freely, as soon as possible, in bed and also out of bed. Pediatric surgeons were the first to start "early ambulation" many years ago, because children made the decision themselves.

Give food soon, provided the correct diet is given in accordance with pediatric precepts. Hypercaloric diets in small volume and in tasty form should be prescribed. Cereal gruels with soya flour and condensed milk are especially good. There is no better way to give proteins and fluids than by mouth.

Every one in the service must keep in mind that pediatric surgery must be strictly conservative, because the child is an organism in a stage of rapid growth. It is of paramount importance to remember that the child reacts intensely to all therapeutic measures, favorably or unfavorably. "Keep close to the patient all the time" is the first and most valuable rule in a surgical pediatric service.

Of course there are many special techniques that cannot be outlined in a paper of this length.

Good pediatric nursing care and precise co-ordination of all hospital services are decisive factors. Without them we should be lost. The time of "individual surgery" is definitely past. It must give way to "Institutional surgery."

Penicillin with Dental Extractions

Heitzman, E. J., and Cutts, F. B.: **Sub-Acute Bacterial Endocarditis; a Review of 45 Cases,** Rhode Island M.J. 32:611 (Nov.) 1949.

That recent dental extractions without the prophylactic use of penicillin is apparently an important precipitating cause of subacute bacterial endocarditis is concluded from an analysis of the records of 45 patients with subacute bacterial endocarditis studied in the Rhode Island Hospital during a 10-year period.

43 of the patients had rheumatic heart disease, 2 congenital heart disease.

19 patients were treated from 1939 to 1943 inclusive, 26 from 1944 to 1948. Only 1 patient in the 1939-43 group gave a history of recent tooth extraction, as compared with 8 in the 1944-48 group. The authors state that in many instances the record contained no statement regarding tooth extraction. None of the patients had received prophylactic antibiotics prior to oral surgery. The authors state that they were unable to discover any patient who underwent dental extraction with the preoperative administration of penicillin who subsequently developed subacute bacterial endocarditis.

Prior to 1944, 65% of the patients with subacute bacterial endocarditis died and the remainder left the hospital unimproved and in poor condition. Since 1944, 12 of the 26 patients died; 2 of these had received no penicillin. 14 patients were apparently cured.

Famous Physician to Edit Family Doctor Journal

Dr. Walter Alvarez, senior consultant in the division of medicine in the Mayo Clinic and widely known author and medical lecturer, has been appointed medical editor of "GP", published by the American Academy of General Practice.

The first issue of the medical association's significant new journal has been mailed to its 12,000 members and other subscribers.

The selection of Doctor Alvarez to succeed Dr. F. Kenneth Albrecht, who died following an automobile accident last month, was announced by Mac F. Cahal, Executive Secretary of the Academy and Managing Publisher of "GP".

Doctor Alvarez is one of the nation's best known physicians. He has been referred to as the "Twentieth Century Osler" by those who would compare him with the famous Johns Hopkins physician who was knighted by the British king.

NATIVE CALIFORNIAN

A native of California, Doctor Alvarez received his M.D. degree from Stanford University Medical School and later studied at Harvard. Since 1926 he has been associated with the Mayo Clinic in Rochester, Minnesota, and has held the position of Professor of Medicine of the Mayo Foundation of the University of Minnesota since 1934. Doctor Alvarez has been a prolific writer on medical subjects for many years and has served as editor on both "The American Journal of Digestive Diseases" and "Gastroenterology". He has been contributing author to several important books and has more than 650 articles in the medical literature throughout the country.

Having reached the age of retirement at the Mayo Foundation, he is moving his residence to Chicago where he will assume the duties of medical editor of "GP".

The journal is published by the Academy's headquarters office in Kansas City, Broadway at Thirty-Fourth Street.

The appointment of the new editor from among several outstanding candidates was made following a meeting of the Academy's Publication Committee in Chicago. Dr. Stanley R. Truman, Oakland, California, president of the Academy, is chairman of the committee. Other members are: U. R. Bryner, M. D., Salt Lake City, Utah, Arthur N. Jay, M. D., Indianapolis, Indiana, and D. G. Miller, Jr., M. D., Morgantown, Kentucky.

Pernicious Anemia Relapse

Erf and Wimer[11] (Jefferson College Medical School, Philadelphia) treated a pernicious anemia patient in relapse using vitamin B12 in doses of 25 micrograms intramuscularly on two successive days. The patient was followed for 114 days and the peak level of red blood cells occurred on the eighty-sixth day. They also treated two other patients with pernicious anemia in relapse, one of whom had severe subacute combined degeneration. Following a single dose of 32 micrograms of vitamin B12 from *Streptomyces griseus* the patient without neurologic complaints had a good hematologic response. The dose was repeated in the patient with combined degeneration and ultimately definite neurologic as well as hematologic improvement took place.

A CASE OF EXTREME SPONDYLOLISTHESIS WITH COMPLETE LUMBO-SACRAL DISLOCATION AND DOWNWARD OVERRIDING OF THE DISPLACED FIFTH LUMBAR VERTEBRA

By Dr. Alvaro Rodríguez Villarreal
Torreón, Coahuila, México

The author wishes to present a radiologic study of an interesting case and accompany this with a rather incomplete clinical history. It is being presented because in reviewing the literature there was not even mentioned another case with similar characteristics

Fig. 1—Antero-posterior view of the lumbo-sacral area showing the extreme spondylolisthesis with the presence of an ovoid shadow representing the bodies of the lower lumbar vertebrae projected against the sacrum.

to the one being presented. I believe this unusual case will very well compensate for what is lacking in the history and clinical story.

This is a radiologic study of the lumbo-sacral area of the vertebral column on a Mrs. P. C. referred to me by Dr. Jose Gonzalez Villarreal, who aroused my curiosity as to the lesion which had been discovered. With the help of Dr. J. G. Villarreal who supplied me with the necessary information and physical examination data, I will describe the roentgenograms and interpret them.

CASE REPORT

The films will be described first and these may be seen in the accompanying illustrations, Figures 1 and 2. These consist of an anterior-posterior view and a lateral view of the lumbo-sacral area. It will be noted in the A-P view that at first glance there appear to be only two lumbar vertebrae with the ribs situated practically on top of the iliac crest. In the region of the sacrum, there is observed the presence of a dense shadow that was interpreted finally as resulting from the superposition of the x-ray images of the third, fourth and fifth lumbar vertebrae in front of the sacrum. The lateral x-ray shows clearly the complete subluxation of the vertebral column with the fifth lumbar vertebra lying squarely in front of and beneath the upper portion of the sacrum.

The patient was a female, of Mexican-Indian descent, thirty-eight years old, married, and by occupation, a cook. At the time she came to my office she was walking in an erect position. It was immediately apparent that she was of very short stature with her trunk being out of proportion to her legs, and much shorter, apparently, than her lower extremities. She solicited the services of Dr. Gonzalez Villarreal originally because of a vaginitis. The etiology of this was unknown. The gynecologist ordered a radiological survey. On vaginal examination, however, there was felt a prominent mass in the posterior fornix of the vagina which was felt to be an unusually prominent promontory of the sacrum.

GENERAL INSPECTION

In the general inspection of the undressed patient, the disproportion of the lower extremities to the trunk, and the proximity of the last ribs to the iliac crest were immediately apparent. A marked depression in the patient's back in the lumbo-sacral area was found also. The patient, when questioned, stated that she had pain where the ribs pressed on the iliac crests whenever she did moderate or heavy exercise There was also some pain in the lumbo-sacral region itself with exertion.

Further investigation of the history revealed that some years prior to the present illness, she had what was called rheumatism and was in bed for a period of one year. Before that the patient was well. She stated that she was normal in stature, and had never had any injury or illness which might account for her present trouble. She was married when she was eighteen and became pregnant during her first year of marriage. After a difficult childbirth which ended in a crouching position, she noticed a sudden pain in the vertebral column in the lower part of the back. Since then she had low back pain off and on and some of the time quite disabling in degree. The backache radiated down into both legs. The pain gradually increased in intensity and her attacks of severe pain came more frequently. Approximately six years after the birth of her child, the patient developed crural paraplegia with incontinence of the bladder and rectum. She was in this state for approximately one year. Toward the end of the year, the incontinency disappeared and she also regained the ability to use her legs. No medicines appeared to be effective in producing this improvement. During the time in

which she was disabled so badly she walked in a peculiar position with her trunk thrust forward.

COMMENT

The history given by the patient, in the opinion of the author, does not satisfactorily explain the pathology found in the lumbo-sacral joint in the x-rays; for it is felt that there should be a history of a severe trauma to produce so much displacement.

There existed undoubtedly and originally a congenital spondylolisis (a bilateral fissure of the interarticular portion of the vertebral arch, the inter-

Fig. 2—Lateral view of the lumbo-sacral area showing the complete forward and downward displacement of the fifth lumbar vertebra on the sacrum so that it lies well below the upper end of the sacrum.

apophyseal isthmus) which may have been in effect a true asymptomatic spondylolisthesis with less displacement than was found in the films. It is felt that this spondylolisthesis was aggravated at the time of labor, and it became symptomatic in the form of chronic low back pain and later on in the other symptoms innumerated above in the case report. The dis-alignment of the fifth lumbar vertebra over the sacrum became more and more severe with the anterior portion of the neural arch of the vertebrae going forward with the body and the posterior portion of the neural arch and spinous process remaining posterior. This progressive subluxation resulted in compression of the nerve root possibly between the articular surface of the sacrum and the apophyseal joint surfaces of the fifth lumbar vertebra and in addition to this probably there was pressure by the displaced vertebrae.

The disappearance of the paraplegia later could be explained by supposing that these isolated portions of the bone were resorbed over a period of time releasing the pressure on the cauda equina.

The foregoing interpretation may explain in part the clinical history as related by the patient but there are still left a great quantity of "hows" and "whys" which are unanswerable. It is to be hoped that some of the readers of this article better acquainted with such subjects than I am may be better able to interpret this case and if so, it is hoped that they will write me and inform me of their opinion.

SUMMARY

1. A very unusual case of severe spondylolisthesis is reported in which the fifth lumbar vertebra slipped forward and then downward on the sacrum until the fifth lumbar vertebra lay completely in front of and below the upper portion of the sacrum.

2. These x-ray findings were encountered incidentally in a gynecological patient.

3. Her presenting symptoms as far as her skeletal deformities were concerned, were pain where her ribs pressed on her iliac crests and some low back pain.

4. There was no history of trauma in this case, although she had a sudden severe onset of symptoms at the termination of a difficult labor with her first pregnancy.

5. A very interesting feature of the history was that the patient had a partial paraplegia with incontinence of the bladder and rectum for a period of one year, thirteen years before she was seen by the author.

6. It is difficult to reconcile the clinical and x-ray findings with the history, and some comments are made upon this by the author.

Editorial Comment

This is an excellent paper reporting a very rare case of spondylolisthesis with extreme downward displacement of the fifth lumbar vertebra. The editors of SOUTHWESTERN MEDICINE have taken the liberty of making a free and liberal translation of the paper as originally submitted in Spanish. They have felt this necessary in order to make it more readable; for literal translations are always awkard and less pleasant for the reader.

Dr. G. H. Fitzgerald

Dr. Guy Harlan Fitzgerald, Tucson physician for the past 18 years, died recently. He was 76 years old.

Born in Cleveland, Ohio, Dr. Fitzgerald came to Bisbee in 1914, where he practiced until coming to Tucson in 1932.

Survivors are his wife, Alice W., Tucson; three brothers, J. E., Washington, D. C., Dr. Fred S., Morris, Ill.; Dr. Charles A., Clarion, Pa;, and three sisters, Mrs. Mildred Knapp, Clarion, Miss Irene Fitzgerald, Houston, Tex., and Mrs. Avis McClow, Chicago.

Dr. Fitzgerald graduated from the Western Reserve Medical School in Cleveland in 1898. He was a member of the American Medical Association, The American College of Surgeons, the Arizona and Pima County Medical Societies. The physician was a life member of the Ballut Abyad Temple, Albuquerque, N. M., a member of the Perfect Ashlar No. 12, F & AM. Bisbee, and the Bisbee commandery No. 4 Knights Templar.

CHRONIC ULCERATIVE COLITIS WITH CASE REPORTS

(Estudio Sobre "Colitis Ulcerosa Cronica" con Presentacion de Algunos Casos Clinicos)

By Dr. Roberto Castañeda a la Torre
Ciudad Juarez, Chihuahua, Mexico. Feb. 11, 1949

Anatomically, colitis is separated into two main groups, the so-called false, or functional colitis, and true or organic colitis. We further divide organic colitis into two sub-groups, namely, ulcerative colitis of known cause, and ulcerative colitis of unknown etiology, termed, usually, chronic ulcerative colitis. Historically we find that the first cases were reported by Wilks in Moxon in 1875. Hale White mentioned the subject in 1888. Later in 1912, Segond Cade Hutinel, and Nobecourt reported a small number of cases. However, on the North American continent, real credit for the recognition of this lesion must be given to Dr. A. H. Logan, who, in 1919, presented 117 cases. Dr. A. E. Bargen from the Mayo Clinic in 1942, presented 3,600 cases. In Mexico this subject has been brought to the front by two physicians, Dr. Jorge Flores Espinoza, and Dr. A. Acevedo.

Great emphasis is placed on the variety which exists in the nomenclature of this disease, such as: Ulcerative rectocolitis of unknown etiology; colitis gravis (German School); streptococci chronic ulcer active colitis (North American School with A. Bargen); Idiopathic ulcerative colitis; colitis ulcerosa grave; rectocolitis ulcerosa grave hemorragica; etc.

CLINICAL STUDY

Our Clinical study has been conducted as follows: Critical analysis of the history; complete physical examination; sigmoidoscopy with histopathological examination; radiographic examination and microscopic examination of the stools. In the critical examination of the history one must consider first the general conceptions of the disease.

In this study it has been noted that this particular type of colitis is much more frequent than is generally thought; the diagnosis is often missed because one fails to consider the possibility and to look for it. In our series of cases there is essentially no difference as regards the sex.

It was found to be more frequent between the ages of twenty and forty years, but was not infrequently seen in children, and in the aged. In the group of cases presented, the ages varied from six to sixty-six. It should be noted here that when the disease has developed prior to puberty, it causes arrest of the somatic and psychical development of the individual.

CONSTIPATION

Heredity apparently does not play a part, and there was no predisposition as regards race. It was found that episodes of constipation with acute attacks of simple diarrhea were among the first objective symptoms noted by the patient. The history of these patients revealed that essentially all of them had symptoms referable to the gastro-intestinal tract, such as dysentery, gastro-duodenitis, or post-prandial discomfort. It was felt that social and hygienic conditions might well play a part, and that in some of these cases the bacterial and parasitic colitises seen during the summer months may well have been perhaps an instigating factor. In some cases, focal infection was considered to play a part, and in other cases indiscretions in diet which continually traumatize the large bowel were considered to be of etiological significance.

It is considered that there are four cardinal symptoms as regards the dysenteric syndrome; namely, pain, false desire to move the bowels, tenesmis, and so-called false diarrhea. In this connection it may safely be said that the prognosis in the acute form, manifesting these four cardinal symptoms, has been greatly improved since modern chemo-therapeutic agents have been employed in the treatment. The same applies to some degree to the group of chronic disease, and several chronic cases are reported with periods of good health for over a period of ten years.

This type of colitis is very often accompanied by complications. For purposes of study, these can be divided into local and general complications as follows:

LOCAL COMPLICATIONS

1. Poliposis.
2. Obstruction and stenosis of large bowel.
3. Perirectal or perisygmoid abscesses.
4. Cancer of the large bowel.
5. Perforation of the large bowel.
6. Massive hemorrhage.
7. Fistulas.
8. Prolapse of rectus.
9. Fissures of anus.
10. Hemorrhoids.
11. Pruritus ani.

GENERAL COMPLICATIONS

1. Arthritis.
2. Muco-cutaneous manifestations.
3. Renal insufficiency.
4. Endocarditis.
5. Hemiplegia due to embolism.
6. Phlebitis.
7. Splenomegaly.
8. Edema due to hypoproteinemia.
9. Neuritis of different types.
10. Thromboangiitis obliterans.
11. Abscesses in the liver.
12. Acute yellow atrophy of the liver.
13. Parenchymatous degeneration.
14. Suppurative parotiditis.
15. Cachexia and anemia.
16. Physical and mental infantilism.

In the cases considered pseudopolyposis was the most frequent complication, and it was noted that many of the cases had complications which could be classified both under the heading of local and general.

SIGMOIDOSCOPY

Sigmoidoscopic examination is considered to be of prime importance, and probably of more importance in this series of cases than the radiographic ex-

amination. Microscopic examinations of the stool, if carefully done, were found to be of great importance. Two other procedures which were found to be beneficial were the lipo-soluble albumin reaction, and the technique used to isolate the diplo-streptococcus of Bargen.

It was impossible to reach any exact conclusion as regards the etiopathogenesis. Various theories, such as co-existing allergy, nutritional deficiency, bacterial invasion, and even psychosomatic problems were considered. It is interesting, however, to note that on several occasions amoebic dysentery had been present prior to the inception of true chronic ulcerative colitis. As to the prognosis, the opinion is expressed that the word "control" should be used instead of "cured". As regards treatment, the usual medical treatment, consisting of support and anti-biotic and chemotherapeutic agents was stressed, and the place of surgery was discussed at some length, especially as regards Ileostomy, which in two of the reported cases produced very adequate results. **AUTHOR'S ABSTRACT.**

Distinguished Speaker at Safford Meeting

Dr. Arthur E. Smith, M.D., D.D.S., F.A.C.S., Los Angeles, noted oral and plastic surgeon, was the principal speaker at the recent meeting of the Graham County Medical Society in Safford, Ariz.

Dr. Smith spoke on, "The Detailed Surgical Technique of Various Types of Reconstructive, Plastic, Maxillo-Facial and Oral Surgery." The lecture was accompanied by several reels of exemplary and instructive colored motion pictures.

Dr. Smith is senior staff member, California Hospital, Los Angeles; senior staff member, St. Vincent's Hospital, Los Angeles; senior consultant, Veterans' Hospital at Sawtelle, Los Angeles; consultant, Mission Hospital, Huntington Park; professor of reconstructive plastic, maxillofacial and oral surgery, University of Southern California.

ROBERT S. KELIER, M.D., President,
Graham County Medical Society
Safford, Ariz.

"Doctor of the Year"

DR. JIM CAMP WAS HONORED at a banquet in Pecos last night. He was named "Doctor of the Year" of this district of the State Medical Association.

Dr. Camp is ending 50 years as a general practitioner. He has helped at the births and watched the deaths of innumerable people of Pecos and the surrounding territory. He has grown to be the first friend of the community, a well beloved citizen.

Dr. Camp's tribe is all too few, and it is to be hoped that they do not disappear. The profession must see that they do not.

We do not wonder, either. We feel sure that Dr. years in Pecos, or anywhere else, under a system of socialized medicine such as the socialists who masquerade under false labels would bring to this country.

We do not wonder, either. We feel sure that Dr. Camp would never have existed under socialized medicine. That system makes bureaucrats of physicians and bureaucrats are victims of the vocational diseases of sloth and inefficiency. They wouldn't work as Jim Camp has for half a century.

Many a time in the cold darkness, Dr. Camp has driven away from his warm home to deliver a baby. The mother, and the helpless father, welcomed him, trusted him, and worried no more after his arrival.

But suppose a bureaucrat had arrived to do the job.

Reprinted from
EL PASO HERALD POST

Urethane (Ethyl Carbamate) Therapy In Multiple Myeloma

"Four patients with multiple myeloma have been treated with urethane (ethyl carbamate) for eight to ten weeks in total doses of 120-290 gm. and observed over periods ranging from seven to thirteen months. Striking benefit relating to all aspects of the disease was observed.

". . . the administration of urethane to patients with multiple myeloma alters the fundamental abnormality of the disease in a selective and beneficial way made possible by previously available therapeutic agents.

"The urethane was given in divided doses by mouth in the form of an elixir or syrup. All four of the patients tolerated the chemical exceptionally well with virtually no gastrointestinal symptoms. During the first three to four weeks they were given 4-6 gm. per day. Three patients developed leukopenia following which the dose was reduced to about 2 gm. daily or temporarily suspended. Further fall in the white cell count did not occur. The urethane was given over a period of about two months and then discontinued . . . . Two patients relapsed and were given a second course of therapy.—Loge, J. P., and Rundles, R. W., Blood, J. Hematology, 4:201, 1949.

Agranulocytosis

Cahan, A. M.; Meilman, E., and Jacobson, B. M.: **Agranulocytosis Following Pyribenzamine; Report of a Case,** New England J.Med. 241:865 (Dec. 1) 1949.

A case of agranulocytosis subsequent to pyribenzamine therapy successfully treated with penicillin, folic acid and supportive treatment is reported.

The patient was a 39 year old woman who received a total of 4 Gm. of pyribenzamine over a period of 5½ weeks in treatment of a spreading rash diagnosed as a contact dermatitis. Two days before admission to the hospital and a day after onset of chills, fever, prostration and sore mouth, the patient discontinued the pyribenzamine and took several empirin tablets.

Treatment consisted of penicillin in a dosage of 100,000 units intramuscularly every 3 hours for 6 days, then every 8 hours to a total dosage of 4,800,000 units.

Supportive therapy included a soft diet and multivitamin capsules. Folic acid was started on the 3rd hospital day.

On the day of admission the white blood cell count was 3,200 with 8% neutrophils and 6% basal forms. On the 8th day the white count had risen to 7,500 and 70% neutrophils, 27% lymphocytes and 3% monocytes.

The Effect of Procaine Penicillin on the Bacteriostatic Action of Sulfadiazine

"Because procaine has been reported to interfere with the bacteriostatic action of the sulfonamides, it seemed important to determine whether or not the amount of procaine administered in the usual therapeutic dose of procaine penicillin has any demonstrable antisulfonamide effect.

"Results obtained in this study show that the bacteriostatic activity of sulfadiazine in the serum of children receiving therapeutic doses of sulfadiazine is not affected by the administration of presently available procaine penicillin preparations when the latter are also given in the usual therapeutic dosage." —Goldberg, D., and Kagan, B.M., *J.Lab.Clin.M.* 35:63, 1950.

ADVANTAGES OF THE CERVICAL TRANSPERITONEAL TRANSVERSE CAESAREAN SECTION

(Ventajas de la Cesarea Cervical Transperitoneal Transversa)

By Dr. Carlos Miranda Garzon
Ciudad Juarez, Chihuahua, Mexico. Feb. 10, 1950

The problem of uterine infection is no longer considered as great a menace to caesarean section as it was previously, because of the acquisition of modern anti-biotic and chemo-therapeutic agents, plus the great advances in surgical technique. There has been a noticeable change in the major condition and indications regarding this particular surgical procedure. This may be stated as follows:

There has been a notable increase in the percentage of conservative sections; for the most part, those which have simplified technique, such as a transperitoneal surgical caesarean section. There has been essentially complete abandonment of the extraperitoneal caesarean sections. This technique is considered complicated, useless, and not without danger. It may be stated that the Portes caesarean section with exteriorization of the uterus has been essentially completely abandoned, mainly due to the fact that there is rarely, if ever, an indication for this particular type of operation.

The Porro type of section with removal of the uterus is becoming a rare procedure, and having its only justification perhaps in uteri which have neoplastic disease. Drainage is rarely instituted, since it has been found that it will not take care of any complications that cannot be solved by the proper use of anti-biotic therapy.

CLASSIC DESCRIPTIONS

In Mexico the transperitoneal caesarean section has been used for many years. The technique follows the classic descriptions (De Lee, Williams, etc.), with a longitudinal and retrovesical incision of the cervical segment. The work of Matus of Chile, and of Aguirre from Chihuahua has shown quite clearly that the transverse incision possesses certain advantages; and, since July, 1949, when we adopted this technique, we have been able to make the following observations.

First, in making the longitudinal incision, a great number of muscular fibers, which are cut perpendicularly, heal, producing considerable amount of fibrous tissue, which results in the loss of the elasticity and contractility in the severed segment, which, of course, interferes with its function.

Secondly, the technical difficulties in making an incision consist principally in havng to make a great separation of the bladder, so that the incision in the uterus is of adequate size. This is not usually obtained; and because of it, the superior angle is often ruptured during the delivery of the head which causes the technique to really lose its purpose. During the closure the inferior angle is at such a deep plane that it may produce incomplete union, or even bladder perforation.

TRANSVERSE INCISION

The transverse incision has a number of advantages. It does not sever any muscular fibers, and the incision is made in their same direction. The dissection is made with the fingers in similar manner as one separates the muscle fibers of the anterior abdominal wall during a laparotomy, and of course, therefore, induces much less trauma. During the delivery it is really inconsequential if there is any tearing in the angles, because these will not include the uterine segments, which would modify the purpose of the technique. At the time of closure, an Allis clamp is placed on each angle at the right and left of the surgery instead of above and below, in order to facilitate closure. The suture is done in two layers.

It is a proven fact that the loss of blood is less with the transverse incision than it is with the vertical type. In a large number of sections using this technique, only one accident has been observed. At the beginning of the closure, the inferior lip was thought to be bladder which had slipped from the retractor. A suture was made, suturing together the upper lip and the posterior wall of the lower segment that at that time was folded, and simulated a free border that was thought to be the lower lip. The mistake was caught; the retractor was removed; and repair was made without serious consequence.

SURGICAL TECHNIQUE

Surgical technique may be described in the following manner:

1. Infra-umbilical laparotomy in the middle line. Exposure of the uterus and protection of the rest of the abdominal cavity with sponges.
2. Transverse incision of the vesico-uterine fold reaching in both sides the border of the cervical segment.
3. Separation of the bladder as low as possible, taking advantage of the vesico-uterine cleavage.
4. Retraction of the bladder with the pubic retractor.
5. Upward separation of the peritoneal investment until we reach the contractil portion of the uterus.
6. Transverse incision 2 cms. long in the middle of the cervical segment, affecting only the muscular layers and leaving the membranes intact.
7. Puncture of the membranes and suction of the amniotic fluid.
8. Both index fingers are introduced into the incision with their dorsal surfaces in contact. The fingers are then separated, enlarging the incision until there is enough room for the passage of the foetus.
9. Delivery of the foetus. This maneuver will vary according to the position of the foetus.

REST PERIOD

10. Rest period during which the uterus should contract and slowly expel the placenta. This expulsion can be accelerated with slight pulls of the cord.
11. Intra-uterine toilette and careful hemostasia.
12. Closure of the wrench in the uterine wall with two layers of continuous sutures. The first layer is invaginated. Chromic catgut No. 1 is used for these sutures. The mucous layers should not be included in these sutures.
13. Removal of the pubic retractor and peritonization with a purse string suture, in order to leave a surface as smooth as possible.

14. Removal of the compresses and closure of the abdominal cavity as usual.

We have employed this type of caesarean section on several occasions because of the following indications: Marginal placenta praevia with hemorrhage; dystocia due to narrow pelvis in a primipara with 48 hours of labor, ruptured membranes, and foetal bradycardia; narrow pelvis in a primipara with recent foetal death, central and complete placenta praevia; and in one case where the dystocia was due to the inability of the cervix to dilate due to previous fulgurations. The case records reveal that the post-operative convalescence was not stormy, and all these patients were dismissed from the hospital prior to the eighth post-operative day. **AUTHOR'S ABSTRACT.**

BCG—What Is It?

An increasing number of newspaper stories are appearing about the tuberculosis vaccine BCG.

It should be said, first of all, that BCG is no shining new discovery. It is nearly thirty years since the vaccine (called Bacillus Calmette-Guerin for the French scientist who developed it, or "BCG" for short) was first used on human beings; more than forty years since experiments began on animals.

It has been used on millions of people in European countries particularly in Denmark. That country's chief of tuberculosis control reports that "BCG vaccination is absolutely safe . . . The vaccination gives considerable, but not absolute protection."

Similar findings have been reported (although on far fewer cases) by American and Canadian medical research men. Their work has been done mainly on hospital nurses, American Indians and infants who had had no known exposure to the disease.

Second, it should be made clear that BCG, at best, is a preventive. It is of no value whatever as a curative agent. The thousands of patients who now have active tuberculosis should stake their plans for recovery on sanatorium care, with or without surgery, the the seasoned judgment of their physician decides.

Third, BCG is of no value even as a preventive agent when an individual is already "positive" to the tuberculin skin test— that is, has already been infected with tubercle bacilli. Approximately half of all adults today are believed to be tuberculin-positive, although most of them, let it be added at once, will probably go through life without active tuberculous disease.

Fourth, the vaccine does not give "absolute protection." There is a great question mark in many investigators' minds. Vaccinated persons have now been observed to remain well for eight or ten years. But will their immunity remain good for the thirty of forty remaining years of life?

Finally, the vaccine is not commercially available. No drug manufacturer produces it; no drug house sells it. Private physicians, even if they wanted to, could not today obtain supplies with which to vaccinate private patients.

Up to now—and probably for some years to come —the only vacciation programs in the United States have been carried on by governmental bodies like the Office of Indian Affairs, or non-profit laboratories, and under carefully planned arrangements. One program is now under way whereby student nurses and medical students who are negative to the tuberculin skin test may be vaccinated to give them some protection against development of active disease if and when they later become infected.

Today, after many years of cautious observation, many American public health workers seem ready to utilize BCG more generally.—Condensed from The Crusader.

Spring Colds

During the Spring months the incidence of common colds in the United States reaches one of its three yearly high points, the other two occurring in January and in October and November. The common cold, because of its mildly debilitating effects when compared with diseases which elicit more dramatic responses from their victims, has not received its due public and scientific attention. Research has been busy in less innocuous directions, and the control of "coryza" has been left largely to the unskilled discretion of the sufferer whose daily activities frequently permit him to seek medical advice only as a final resort. Even though various types of cold therapy, ranging from high-protein, low-carbohydrate diets to bactericidal aerosols, have been found partially effective, the guilty filterable virus and the mucosa-invading micro-organisms continue to defy a standard form of management. Until the same degree of investigative force that has been applied to the control of veneral disease, childhood disorders, tuberculosis, and many others is brought to bear on the common cold, and so long as people must get close to one another and breathe at the same time, the old Army recommendation of "drink lots of water and get lots of sleep" will retain its value, however paradoxical it may sound.

Lack of Negro Physicians

The drive to raise $1,300,000 now being conducted by the United Negro College Fund, in which it is hoped to aid thirty-three member colleges in increasing the number of Negro physicians and others in allied professions, has brought to light some very interesting and pertinent information which heretofore has not been generally known. A comprehensive study recently completed by the Fund, covering various fields of Negro health and welfare service, reveals that there is only one Negro physician for every 4,000 Negroes, compared to one white physician for every 900 of the nation's population. As a result, William J. Trent Jr., executive head of the Fund, estimates that 13,000 Negro physicians are needed today. He declares further that there are only 1,400 Negro dentists compared with almost 70,000 white dental practitioners, while the number of Negro nurses is around 8,000 of the 400,000 nurses in the United States. In its appeal, the Fund's report, in pointing out the glaring disparities which exist in those fields, declares that "Americans who would demonstrate practical democracy to the world must teach hope by helping to release our own minority groups from despair." This drive is worthy of the support of the various colleges and universities throughout the United States.

Clinical Experience with Thiomerin

"Thiomerin, administered subcutaneously, is a safe and efficient diuretic. If further observation warrants it, the ultimate value of this drug may soon be realized; that is, administration in the home by a member of the family or by the patient himself."—Enselberg, C.D., Simmons, H.G. *Am.J.M.Sc.* 219:139, 1950.

Status of Vitamin E in Treatment of Heart Disease

"The complete lack of successful or even promising results reported by so many investigators leads to the conclusion that the value of vitamin E in the treatment of heart disease has not been proved."—Baer, S., and Heine W. I., *Modern Concepts of Cardiovascular Disease* 18:53, 1949.

THE DANGERS AND DEFENSES OF OUR AIRWAYS*

By Ralph A. Fenton, M. D., Sc. D., Portland Oregon

Since the childhood of our race, people have worried about the nose and throat as portals of infection; and we have used various aromatic spices and herbs — incense, sandalwood, tobacco — for toughening the resistance of our respiratory linings. During the plague in Florence, doctors wore an impervious coverall, with a helmet resembling a bird's head, the beak of which was filled with spices. Lepers are still made to veil their noses and mouths in certain Eastern countries.

Ancient notions of disease as a miasma arising from foul night air, or as an interference with the ascent of "vital humors" from the nose into the ventricles of the brain, gave rise to similarly weird ideas of the pathology of nasal irritation and discharge, which came to be grouped, even in our own days, under the general name of catarrh — a "down-flowing", thickening and corruption, of normally "light and stimulating humors".

We now know that nasal disease is very ancient, since its traces are evident in the skulls of prehistoric man. Development of the frontal lobes of the brain and crowding the eyes together to secure binocular single vision, have caused anthropoid apes, monkeys and ourselves to lose the roomy nasal cavity and extensive olfactory organ of lower species — the sinuses have become more and more crowded, and with our assumption of an erect posture their primitive drainage openings have changed direction and become narrowed or covered over.

SINUSES VULNERABLE

Like other structures whose function has been impeded or lost, the nasal sinuses of civilized man have become extremely vulnerable. Even savages with broad, open nostrils, and the large apes and monkeys, succumb to nasal disease unknown in their native habitat, when they are exposed to the crowded living conditions of our civilization, to which we have by repeated exposure acquired relative immunity.

A generation or two ago doctors knew little about nasal physiology and less about the sinuses. Treatment was for years directed to the accessible and more or less readily visible membranes of the turbinates, septum and pharynx. Tonsils were sliced off level with the pillars; adenoids were ignored or partially twisted out with forceps; Turbinates were clipped out with scissors, or, later, burned to the bone by electric cautery; the nasal septum was sawed, punched, fractured, or reset with perforated hard rubber splints to hold it in place. Nobody paid any attention to the mucous membrane, which often became dry and crusted after such procedures. Only a few bold pioneers dared to enter the antrum, usually by pulling a tooth, after which a permanent fistula into the mouth often remained; the other sinuses, especially the sphenoid, resembled old maps of central Africa or of the "great American desert" — they were unknown territory. Local treatment, by forcible douches and sprays, often led to middle ear and mastoid disease.

FEW MASTERS

Because few men had mastered use of the laryngeal mirror, only a few specialists ever looked at the vocal cords, and the trachea and large bronchi were not visualized at all. Diphtheritic membranes were, when possible, pulled out by fingers or forceps, and the O'Dwyer intubation set, often a life-saver, was used by feeling, not vision. Throat and larynx were painted with camels-hair brush applicators. Quinsy was often allowed to proceed to spontaneous rupture, which sometimes meant mediastinal invasion. Foreign bodies in the air passages or upper oesophagus were sought by bristle probings or side-tipping bucket-like "coin catchers", both on whalebone handles.

Lacking roentgen ray diagnosis, but emboldened by careful dissections, surgical pioneers of the nineties found that the accessory sinuses could easily be reached by radical operative procedures. With improvements in technique, these methods were widely adopted; but owing to sacrifice of turbinate tissue much damage, scarring, crusting and ultimate discomfort ensued. Reaction from these procedures, with the popularization of vaccine therapy shortly after 1900, led to indiscriminate use of such agents, locally and by injection; but in the presence of unbridled propaganda by manufacturers, and without standardization of dosage, vaccine therapy and the use of local antiseptics fell into deserved disrepute.

EARLY TEXTS

As physicians, we tend to follow our early texts and teachers, in spite of things learned in practice, or from later graduate study. Now-a-days too, we fall in with the skillful emphasis placed by detail or sample men, or by their advertising, upon their special applications of "new discoveries". Remember, for example, the much-touted "chlorine bomb" for inhalation, used on the stuffy nose of Vice-President Coolidge until the Army pathologist, Colonel Coupal, discovered that his patient was allergic to the horse-hair binding of dusty old matting under the carpet of the Senate rostrum. (Hence Mr. Coolidge's "electric horse".) More recently, we all started to use the sulfa drugs, and later penicillin, for almost everything, until adverse reactions began to show up. And now, encouraged by some good results of oxygen and helium "aerosol" inhalations of penicillin, one finds that some firms are already pushing the sale of self-inhalers for penicillin powder.

But what about diminishing therapeutic values because of indiscriminate use of these powerful agents? New pathogens are showing up, resistant to their former conquerors. Other antibiotics are in use or coming soon, fortunately too dangerous for general use. We should certainly not let the patient himself select and administer such medicines.

It may be worth while to be reminded of some of the manifold dangers besetting our respiratory pathways. Be assured I shall not try to mention all of them.

MANIFOLD DANGERS

Postnatal influences in air and food include bacteria, viruses, molds, dusts, animal emanations, certain foods (as milk and eggs); and all of these set up responses in the young child, who either makes up his own circulating vaccines against them, falls acutely ill and is thereafter immune, or becomes allergic to one or another of them, more or less permanently.

Inhaled or swallowed foreign bodies — seeds, chicken bones, sand burs, pieces of carrot, nut meats (especially peanuts), lost baby teeth, coins, buttons, washers, safety pins, tacks, nails, screws, paper clips —any of these may shut off breathing or drop far enough into the tracheobronchial tree to shut off part

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of a lung and cause atelectasis or lung abscess.

In the adult, occupational irritants — silicosis, soot, acid or other chemical fumes — may cause disastrous epithelial loss and secondary fibrosis, or may open fresh fields for bacterial invasion by germs already present in the nose or mouth.

Recreational dangers, also involving children, come from water contamination, particularly from coliform bacteria. Such dangers are made worse by careless swimming or diving habits, which may stir up nasal irritation leading to sinusitis, or to tracheobronchitis. Conversely, overly strong chlorination of water in swimming tanks may prove irritating. Eggs or incubation forms of various protozoa and parasites — amoebae, intestinal worms, trichinae — may enter by the mouth, either with impure water or in contaminated food; the ray fungus of actinomycosis may get in from chewing on an infested straw; while the eggs of ordinary flies may be deposited in the nasal discharges of neglected children.

Paralysis caused by bulbar poliomyelitis is especially dangerous, requiring the utmost in professional and nursing skill. Also the residual paralyses of diphtheria and of multiple sclerosis become serious because of difficulty in clearing away secretions.

ORIGINAL INFESTATION

Original infestation with relatively simple bacterial flora may with lessened resistance develop bacterial transfers into decidedly aggressive strains. Bovine tuberculosis, and brucellosis undulant fever — from raw, unpasteurized milk, may enter the tonsils and thus reach the cervical lymphatics, lungs and digestive tract. Streptococci of highly toxic human strains have been experimentally traced from the membranes of the nasal accessory sinuses to the deep cervical lymphatics, thence into the thoracic duct and the pulmonary circulation, finally reaching the lung parenchyma under the pleura. It has been possible to recover these still virulent germs within 48 hours from the liver and spleen of experimental animals. This valid route for lung infection has received little attention, since many clinicians still feel that danger to the lungs comes by direct inhalation of pathogens down the trachea.

The infectious granulomata — tuberculosis, syphilis, more rarely yaws, pinta, Hansen's disease (lepra), actinomycosis, scleroma — find easy access to the body through slight trauma in the mouth, throat, or nose. Lupus in the nose or soft palate, and perichondritis in the larynx, epiglottis or trachea, are tuberculous complications of serious moment. In the soft palate and fauces, round cell infiltrations from tertiary syphilis may be mistaken for the stiffened tissues of scleroma. Also, the subperichondrial swelling of septal gumma may resemble traumatic septal abscess, or the much slower, obstructive lesions of scleroma. Intractable bullous lesions of the cheeks and pharynx are suggestive of pemphigus.

IRRITANTS IMPORTANT

Irritants play an important part in the etiology of cancer of the nose, lips, tongue, larynx, oesophagus and lung. Among them are excessively hot tea and coffee, and tobacco, with its content of carcinogenic tars and cresols. In the nose and nasopharynx, dryness, crusting and ulceration above the soft palate, whether from ozoena or from alkali dust, require inspection by the postnasal mirror so as to be differentiated from tertiary lues or from neoplasms of the posterior ethmoid or of the nasopharyngeal vault. Ragged old teeth, loose in their sockets, may not be due to pyorrhoea or "gum boils", but may mask invasive cancer of the maxillary antrum. Visible epitheliomas of the lip and tonsil are not often missed, but it is surprising how often large ulcerated lesions of the epiglottis, base of the tongue and upper larynx, are not looked for early enough to do much good. Lung cancer, whether metastatic from breast prostate, or uterus, or caused as many now believe by excessive cigaret smoking, may be detected roentgenologically; and if bronchoscopic biopsy proves negative, cancer cells in centrifuged saline washings may be detected by pathologists trained in the technique of Papanicolaou and Clerf.

Another type of malignancy in which the blood picture is often suggestive may be subjected to tonsil surgery with disastrous results — early lymphosarcoma, Hodgkin's disease, and also infectious mononucleosis. Neglected sarcomata of these regions, in spite of early remissions under radiation therapy, invade the orbit and base of the skull through the sphenoidal fissure and jugular foramen, causing ocular paralyses, blindness and speedy death. Blood dyscrasias — aplastic and agranulocytic anemias — may exhibit vicious ulcerative processes at first mistaken for Vincent's angina.

SINUSITIS EXAGGERATED

Sinusitis is not nearly so frequent as vendors of inhalants and nose drops would have people believe. Acute rhinitis does not often do more than block the various sinus ostia temporarily; and, whether the blockade be due to chilling, to an upset digestive tract, or to an unsuspected allergy, it usually gets well without requiring any very radical treatment. However, if a massive dose of some potent pathogen gets in under pressure — dirty water from a deep dive, free pus from a severe cold when doing altitude flying — the sinus ostium may get blocked by swelling and relief must be secured. If this is not done, particularly when the individual has nasal passages cluttered up by a thick and twisted septum and bulging turbinates, sever acute frontal headaches may occur; and rarely this may foreshadow the possibility of invasion of the bony posterior wall of the frontal sinus overlying the dura, with possible osteomyelitis, meningitis or brain abscess. Fortunately, here as elsewhere in the skull, antibiotics along with free drainage have almost abolished these terrible complications.

Chronic sinus involvement may be quiescent, painless, and merely annoying because of copious or foul nasal or postnasal discharge. Many sorts of germs are found in such discharges, including the coliform type and evil-smelling saprophytes. Upper molar teeth with root abscesses below the antra are often to blame. In others, blocking of secretions either by allergic swelling or intranasal deformity leads to polyp formation. By this is meant the extrusion and overgrowth of vastly thickened mucous membranes into pale fingerlike smooth masses which effectively shut off nasal breathing. Invasion of the orbit by acute anterior ethmoid inflammation is not uncommon in young children, while low grade frontoethmoidal infection in adults may enter the orbit in the form of a painless, slow-growing mucoid cyst — mucocele — which may show up by causing lateral displacement of the eyeball.

FASHION CHANGES

It is not now so fashionable as it was a few years ago to blame the sinuses for most of the damage done by so-called "focal infection". It would seem that the teeth and sometimes the tonsils are more frequent sources of upper respiratory sepsis. However, many thickened old sinus membranes are found to exhibit numerous small abscesses in broken-down glands of the submucosal stroma; and in a small number it is found possible by special staining to demonstrate bacteria in the depths of the membrane.

The end results of chronic sinus disease are familiar to many — degenerative changes in their mucous

membranes with loss of their cilia and fibrosis of the submucosal stroma. Upon such unclean membranes mucus piles up, leading to secondary saprophytic invasion, while the discharge dries into crusts and scabs and ulceration or fissuring occurs, with shrinkage and atrophy of the submucosal tissue. Such degenerative changes may reach the stage of ozoena, with accumulation of foul crusts over the turbinates and down into the pharynx and larynx. This drying process and constant irritation from infected discharges first brings hyperplasia of lymphoid follicles in the pharynx, later the dry, shiny and burning red throat of chronic pharyngitis, often with annoying scabs above the soft palate. Similar changes in the larynx and trachea cause alterations in the voice and establish chronic cough. In the bronchi, about which clusters of enlarged glands are usually found at the bifurcation, chronic irritation even to the point of bronchiectasis may occur. Swallowed mucus and crusts, containing virulent bacteria as well as saprophytes, often pass the stomach and small bowel, and stool cultures will reveal streptococci of extreme toxicity infesting the colon in great numbers, or invading the gall bladder or appendix.

TRANSFERRED INFECTIONS

It will thus be seen that many cases of so-called "focal infection" are really transferred infections, comparable to the active foci of arthritis, themselves virulent long after the initial focus in teeth, tonsils or sinus membranes may have been removed. Invasion of the blood stream by bacteria or their toxins through an increased network of capillaries in the subepithelial stroma of the inflamed sinus wall, and invasion of the lymphatic system by dead cells — tissue phagocytes slain in the line of duty and carrying within the vacuoles of their protoplasm germs still vicious enough to produce lymphangitis and glandular inflammation extending along deep pharyngeal chains as far as the mediastinum — such are direct consequences of focal infection from the sinuses. Such infection, however, varies not at all from focal infection arising from the prostate, the uterine cervix, or intestinal diverticula; and its control, once established in the fine capillary networks of joint articulations, of the iris and ciliary body, and elsewhere, lies with the immunologist in collaboration with the ophthalmologist, otolaryngologist, orthopedist, gynecologist or urologist who may attack the local source of trouble.

NASAL ORIGIN

Headaches and neuralgias of nasal origin are most annoying to many sufferers. Locations of such pain are rather characteristic: maxillary sinusitis, the forehead over the eye; frontal sinusitis, on pressure below the inner end of the eyebrow, referred up to the parietal region, usually in the forenoon; ethmoiditis, as if the eyes were being pressed apart; and sphenoiditis, referred to the occiput, shoulder, and especially the mastoid region of the affected side. Nasociliary neuralgia, due to blockade of the nasofrontal duct by septal deviation, small bony tumors, or fractures of the bridge of the nose, is felt in the same region as frontal sinusitis. Conditions causing inhibition of proper vasomotor control in the nose through the sympathetic system, often referred from distant regions through the sympathetic plexuses to the sphenopalatine ganglion, may be due to the menopause, to uterine malposition or enlargement, especially retroversion or increased size and weight due to fibroids or old endometritis, or (in association with attacks of mucous colitis) to glandular hyperplasia of the large bowel, often associated with sacculation and lodgment of fecal masses. Herein are included and associated many cases of endocrine disfunction, notably hypothyroidism.

DEFENSE BALANCE

Over against this lugubrious catalogue of dangers besetting our upper respiratory and digestive tracts, let us now balance up the defenses **arranged by nature for our survival . . .** Most of us begin life with good general resistance, which has come down to us in the germ plasm of long-living forbears; but others have from the start relatively poor constitutions and fall a prey to every intercurrent ill. Personal habits — and this includes family habits and dietaries learned by or imposed upon children — have a lot to do with this matter of individual immunity to disease. Climatic conditions, such as cold wet winters, predispose some people to serious nasal and tracheobronchial trouble, while others react well and thrive under such adverse conditions. Occupational exposures, as to irritant dusts or gases, of course require special precautions, ventilating devices and inhalers or masks.

Our most vital defensive apparatus lies, however, in the normally functioning linings of the nose and throat. The nose and its sinuses are lined by ciliated epithelium, moistened by a film of thin, tenacious mucus secreted by goblet cells and serous glands, which moves smoothly, rapidly and continuously along the walls of every sinus, backward down the turbinates and downward in the pharynx until it reaches smooth epithelium and is carried into the oesophagus.

BACTERIA RESISTANT

This mucous film contains antibodies which are elaborated in the epithelial cells, and is thus highly resistant to bacteria. Under normal circumstances the sinus cavities are practically sterile. This mucin film constitutes our **first line of defense** against dust and germs, changing as it does every fifteen or twenty minutes, day and night. The **second line of defense** is the ciliated epithelium, normally beating backward like wheat blown by the wind, and provided with numerous glands. The **third defense line** is contained in the submucosal stroma, which is highly vascular over the turbinates and can thus be reinforced by a rapid influx of blood when cold, dust, or chemical irritants or inhibitors interfere with or stop ciliary action. Within the sinuses, however, this submucosal stroma is extremely thin and lacking in blood supply; hence the resistance of the sinus membranes is relatively low. Contained in the submucosal stroma are numerous fixed connective tissue cells, the histiocytes, which are endowed with phagocytic powers and are mobilized to take care of irritative substances, germs and toxins which have passed the mucin film and the ciliated epithelium. Such tissue phagocytes, after they are called into action, either migrate through the epithelium with their loads of phagocytized material, or are carried away by the lymphatic vessels. Some, remaining in the tissue, become fibroblasts and start the work of fibrous repair.

NASAL LYMPHATICS

Nasal lymphatics are numerous in the turbinates and septum and comparatively few in the sinuses. With severe infection they tend to become choked with phagocytic and other broken down cells, which are carried to the deep cervical and pharyngeal glands along the spine and under the sterno-cleido-mastoid muscle, giving rise to stiff neck and localized tenderness in these regions, and occasionally to deep cervical suppuration. Chocking of sinus lymphatics, passing out of their ostia, leads to edems, thus further impeding proper drainage from these cavities. Visible lymphatic defense is also shown by enlargement of the adenoid mass, the faucial tonsils, and the follicular lymph glands of the posterior pharyngeal wall.

From the retropharyngeal lymph nodes directly

there is possibility of release of infectious organisms into the surrounding tissues. The local histiocytes, becoming active phagocytes, set up tissue reactions in order to wall off the invaders by formation of fibroblasts and connective tissue. If the phagocytes are overwhelmed but the tissue quarantine is rapid enough, a localized abscess may be the result. If the cause of the infection is not stopped locally, in the retropharyngeal region, it may continue downward in the tissue spaces between the oesophagus and the prevertebral fascia, to the upper mediastinum. This anatomic possibility is rare, because of the distance involved and the numerous phagocytic cells along the way, with numerous opportunities thus to localize invading organisms.

EFFERENT LYMPHATICS

Efferent lymphatics from the retropharyngeal nodes drain, however, into the deep superior cervical glands, which constitute a most important part of the main **third line of defense.** The retropharyngeal nodes can be considered as outposts of the deep cervical glands, of which large ones are generally able to cope with infections; but if they also break down, their drainage is into the cervical lymph ducts, which drain into the thoracic duct or the right lymph duct, and thus into the great veins tributary to the superior vena cava. Efferent drainage from the cervical lymph nodes thus reaches the right heart, and from this point the pulmonary capillary bed.

The pulmonary capillary bed, the bronchial lymph follocles, and especially the bronchial and tracheobronchial lymph nodes, constitute together a **fourth barrier** to material from the upper respiratory passages, if such material succeeds in getting beyond the superior cervical lymph glands. Material that enters the trachea and lungs directly, as by dripping from the upper passages, or with the inspired air, meets the phagocytic septal and "dust" cells lining the septa of the air sacs without passing through the capillary endothelium. Such phagocytic cells, actually histiocytes, would in the case of such inspired material constitute a **first line of defense.** Goblet cells and ciliated epithelium in the respiratory bronchioles and larger air passages undoubtedly serve the same protective function here as in the upper respiratory tract.

DECISIVE BLOW

Arterial blood, through its oxygen content and its load of active circulating leukocytes, furnishes the **final, decisive blow** to organisms which have passed on through the lung capillaries and have been pumped on into the liver and the spleen. Immune bodies arising from previous exposure to various pathogens or from artificial immunization are present in the blood plasma and set up further barriers to attack.

The reflex mechanism of sneezing and cough is another valuable defense aid. In the nose sensitive areas on the upper septum and anterior turbinal seem designed to protect the olfactory fissure high above. In the lung, the carina and each bifurcation of the major bronchi have special end organs which set off the cough reflex, thus getting rid of mucus, dust or other foreign matter.

From these discursive observations it may be gathered that no sort of specialist — otolaryngologist, allergist, immunologist or what not — is solely qualified to pass on the defense mechanisms by which our noses and throats keep out of trouble. The general practitioner must certainly train himself by painstaking observation for early recognition of many sources of danger. Particularly is this necessary in cases of hoarseness. Possession of climatic advantages does not absolve the physician for failure to spot an early cancer of a vocal cord, or — even more serious — early roughening of the cords in pulmonary tuberculosis.

The prophylaxis of upper respiratory disease should be well understood by every doctor. Remembering the nasal and tracheobronchial mucus, ciliated epithelium and connective tissue stroma as our three first lines of defense, we must preserve the functioning of these mechanisms. We must avoid sudden or long-continued lowering of body temperature by exposure — long rides in open cars, winter sports, swimming and diving. Sitting around in a conventional wet bathing suit lowers body temperature half a degree an hour. (Perhaps this has been responsible for the reduced volume of recent bathing costumes.) Driving home in a wet bathing suit with hair damp from swimming, or after a warm shower with plenty of drinks in the locker room when tired from thirty-six holes, may be responsible for a lot of trouble. Swimming teachers now insist on proper breathing habits—inhaling through the mouth, exhaling through the nose — and people who have not learned how to keep water out of the nose should not dive, or swim with the crawl or side stroke. Washing away the protective mucous film, water may carry harmful bacteria from the highly vascular and resistant breathing spaces deep into sinus cavities where resistance to infection is low. Retained water in a sinus, or in the eustachian tube, leads to edema and loss of epithelial cells and favors germ invasion, and sinusitis or ear involvement.

DRYING DANGER

Drying up of cilia by lack of humidity, as in overheated buildings lacking water-pans, or during hot, dry winds, or from excessive cigaret smoking, increases the vulnerability of individuals not only to their own germs, but also to those of others suffering from colds or sinus disease. Conversely, too great or too rapid reduction of indoor temperature by cooling systems may predispose sensitive individuals to chilling and eventual infection.

Dental prophylaxis should obviously include close scrutiny, electrical testing and roentgenograms of all dead, crowned, crowded or otherwise suspicious teeth whose roots may adjoin the maxillary antrum.

Persons with narrow or obstructed noses should be given free and open breathing, by operation if necessary. Septal twists or thickenings, especially when obstructing the nostrils or pressing upon the middle turbinates, should be restored to normal position and thickness in people with recurrent sinus disease. Occasionally in allergic persons the presence of swollen turbinates and of occlusive polypoid growths may so dam up sinus drainage that secondary purulent involvement of the sinuses occurs.

ALLERGIC IRRITANTS

In such cases, not only must the allergic irritant (whether house dust, animal emanations, food or pollen) be identified and avoided; sensitiveness to predominant bacteria from the spheno-ethmoidal region should be determined; but under no circumstances should the warming and moistening function of any of the turbinate structures be ruined by their removal.

Let us frankly acknowledge that we cannot yet diagnose or cure the virus diseases, including the "common cold". However, if we help nature to do her duty, and do not interfere with her too much, she will take pretty good care of us. For, as George Draper once said:

"It is well now and then to take stock of our accomplishments, lest we become either complacent or arrogantly satisfied with what today, as well as at every past moment in our professional history, has been called modern medicine."